Committee on the Peaceful Uses of Outer Space

Unedited transcript

436th Meeting
Wednesday, 4 June 1997, 10.10 a.m.
Vienna

Chairman: Mr. RAO (India)

The meeting was called to order at 10.10 a.m.

The CHAIRMAN: I now declare open the 436th meeting of the Committee on the Peaceful Uses of Outer Space.

Before proceeding with the day's agenda, I have some good news for you. I have just been informed that the 97th flight of Ariane lifted off at 01.20 hours Vienna time today, and was successful in placing into orbit the Indian communication satellite INSAT 2D and Inmarsat 3 [and 4?]. I am sure you will all join me in congratulating the delegations of India and Inmarsat on another success, and wish them well for future operations on those satellites which have just been launched.

This morning we will continue and conclude discussion on item 5 of our agenda, "General exchange of views", and we will then begin our consideration of item 6, "Ways and means of maintaining outer space for peaceful purposes". As I announced yesterday, we will also begin our joint consideration of items 7 and 9, "Report of the Scientific and Technical Subcommittee" and "Implementation of the Recommendations of UNISPACE 82, as well as Preparations by the Preparatory Committee for the United Nations Third UNISPACE Conference". I therefore urge delegations wishing to speak on these agenda items to inscribe their names on the list of speakers as soon as possible.

This afternoon, we will continue and conclude our consideration of item 6, and continue our joint consideration of items 7 and 9.

General exchange of views (cont.)

The CHAIRMAN: The first speaker on my list is the distinguished representative of Chile.

Mr. A. CELEDON (Chile) *(interpretation from Spanish)*: Firstly, I would like to congratulate you and the other members of the Bureau on your election to this high post. My delegation is convinced that your skill and ability will lead the Committee towards the inherent requirements of the twenty-first century, where we will witness ever greater expansion in terms of space activities and their development.

My delegation believes that at the two sessions of the Subcommittees held this year, special achievements were made which deserve mention: firstly, the agreement on a provisional agenda for UNISPACE III; and secondly, the inclusion of a new agenda item, "Review of the status of the five international treaties governing outer space". Both of these issues will require further consideration by COPUOS.

As concerns UNISPACE III, this Conference will have outstanding significance for the continuing development of space activities. Therefore the preparations for the Conference must be a priority issue for COPUOS, the Office for Outer Space Affairs and all Member States. The holding of regional preparatory conferences is thus of the utmost significance. That being said, Chile would be happy to host the regional conference for Latin America and the Caribbean and to make every effort to ensure its success. The Government of Chile will formalize this invitation in due course through the appropriate channels.

The inclusion of the new topic on the agenda of the Legal Subcommittee, to which I have already referred, will strengthen that Subcommittee's role. Recent events have shown us the legal requirements which emerge from the many issues which arise in the context of space activities. Chile has suggested that a comparative study of space law and the environment, in particular space debris, would be very useful. As concerns the geostationary orbit, my delegation

appreciates the proposal put forward by Germany to request the ITU to consider the subject of equitable access of satellites to the geostationary orbit. This reflects a more flexible position for subsequent discussion and regulation. The question of space debris should therefore be analysed in depth in the Legal Subcommittee, and should remain on its agenda.

My delegation reiterates that the space-faring nations must vigorously adjust their activities to the doctrine and spirit enshrined in the various treaties. This is especially true as concerns nuclear power sources in outer space. The Liability Convention sets out guidelines and liabilities in this respect and the space-faring nations should adhere to its contents. In this respect, Chile could recently have found itself in a difficult situation which could have had serious consequences. It is therefore imperative that explicit legislation exists to govern this area.

Chile welcomes the initiative of the Governments of Mexico and Brazil to enter into an agreement to set up a regional technology and training centre for Latin America. This is a practical initiative in terms of international cooperation in space activities which we all support.

At the national level, among the various ongoing space activities in our country, a satellite will shortly be launched by the Chilean air forces. This satellite will carry out experimental work which will benefit the region in general. In cooperation with NASA, Chile is involved in the Chagaspace project to specifically target Chagas' Disease, which has devastating effects in rural areas. Chile is already collaborating with the United Nations in terms of airspace law and space law, and we feel that the creation of a space agency could greatly benefit the space community.

The future poses great challenges in all areas of space, be they technological, scientific, legal or ethical in nature. All organizations involved in space affairs must therefore play a responsible role in such developments. In this respect, the work of COPUOS is particularly significant. The conquest of and access to the technology, which is a prerequisite for sustainable development of all people, calls for a concerted effort to be made by all those involved, and we must make the best possible contributions to this effort.

The CHAIRMAN: Thank you for your statement and kind words addressed to the Bureau. As there are no other delegations wishing to speak under this item, we have thus concluded our discussion of this item. We will now start discussion of agenda item 6.

Ways and means of maintaining outer space for peaceful purposes

The CHAIRMAN: The first speaker on my list is the distinguished representative of Mexico.

Mr. V. ARRIAGA (Mexico) *(interpretation from Spanish)*: As concerns this agenda item, my delegation would like to point out that the recent approval of the Chairman's package proposal and the new working methods of the Committee will allow COPUOS to take new initiatives. During recent informal consultations in the Legal Subcommittee, the proposal of my delegation for inclusion of a new topic on the agenda was accepted. Suggestions such as our own are also aimed at maintaining outer space for peaceful purposes in that they aim to strengthen the legal regime applying to outer space.

Another way to promote the peaceful use of outer space is for all countries to adhere to the resolution adopted by the last session of the General Assembly. That contains key elements to enable COPUOS to promote international cooperation. In conclusion, Mexico agrees with other delegations concerning cooperation between this Committee and the Conference on Disarmament. There should be dialogue between these two bodies in order to revitalize activities and to maintain outer space exclusively for peaceful purposes.

The CHAIRMAN: The next speaker is the distinguished representative of the United States.

Mr. K. HODGKINS (United States of America): Before giving my delegation's views on this agenda item, I would like to recall that 1997 marks the thirtieth anniversary of the Outer Space Treaty. This treaty established the principle of freedom of exploration and use of outer space by all States, and created a legal framework to promote international cooperation in space among developed and developing countries.

We are also approaching another milestone: 1998 will be the fortieth anniversary of resolution 1348, submitted by the United States and 19 other States, which established the Ad Hoc Committee on the Peaceful Uses of Outer Space. The resolution marked a significant step forward for the world community by establishing COPUOS as the only standing body of the General Assembly to consider international cooperation

in the peaceful uses of outer space. My delegation continues to believe in the wisdom and validity of the General Assembly's conclusion, when establishing COPUOS, that it be concerned exclusively with promotion of international cooperation in the peaceful uses of outer space. The First Committee of the General Assembly and the Conference on Disarmament are the competent multilateral fora for discussion on the disarmament aspects of outer space.

COPUOS has played a crucial role in advancing space cooperation and provides a unique opportunity for the exchange of information among developed and developing countries on the latest developments in the use and exploration of outer space. Over the past 40 years, the Committee has formulated and adopted five major outer space treaties and several sets of international principles, evolving a new branch of international law at a pace second to none.

At this point, it is worthwhile to reflect on our discussions since first taking up this agenda item on 1985. The formulation of the title of this agenda item was the product of intensive negotiations in 1984 which culminated in the inclusion of the item on our agenda at the thirty-ninth session of the General Assembly. This item marked the restoration of the consensus principle and the beginning of a long and sometimes arduous task of injecting new life into the work of the Committee.

Since then, there has never been any specific agreement regarding the role to be played by COPUOS in this regards. However, despite this lack of agreement, I think it is true to say that this agenda item has produced measurable results in revitalizing COPUOS and its Subcommittees. This has been reflected in the establishment of a working group on the implementation of the recommendations of UNISPACE 82; the addition of new items to the agenda of the Scientific and Technical Subcommittee; the impetus for the final round of negotiations on remote sensing principles; and the addition of the item on spin-offs. All these developments have their origin in this item.

Another indication of the success of our efforts is the increasing relevance of the Committee's work to the international community in general, as reflected by the steady increase over the past few years in the number of other intergovernmental organizations, as well as NGOs, seeking participation in the Committee's work.

On the basis of discussions under this item, the Committee also concluded that strengthening of international cooperation in the peaceful exploration and use of outer space implies a need for the Committee itself to improve, whenever necessary, the methods and form of its work. My delegation hopes that, despite certain political differences on certain issues, all delegations can make progress in this area of our work. It is a vital process that must continue if COPUOS is to function effectively in advocating cooperation in space within the United Nations system.

The reform of the United Nations system has been a priority for the United States and other governments. The record of COPUOS and its Subcommittees as concerns utilization of conference resources was for many years at best marginal, and my delegation had expressed deep concern in this respect. However, the fortieth session of the Committee will usher in a near total reversal of this situation. This is due in large part to a series of reform measures proposed by the United States, Australia, Belgium, Germany, Italy, Japan, the Netherlands and the United Kingdom, in working papers submitted over the past ten years. Many of those measures have now been used as models for similar efforts in other United Nations organs. In fact, the *Committee on Conferences' Report to the 51st United Nations General Assembly* (document A/51/32) and the 1996 *Progress Report of the Efficiency Board to the Secretary-General* cited several examples of where COPUOS is making significant strides towards optimal use of resources.

The benefits of our efforts to reform the methods of work of COPUOS and its Subcommittees are now evident. We are scheduled to meet for five-and-a-half weeks in total per year, rather than seven weeks; at each session we are able to complete our work ahead of time; we have established a working group of the whole to consider working methods; and there has been a reduction in documents produced by the Secretariat.

Based on information provided by the report of the Committee on Conferences and other information provided by the Office for Outer Space Affairs, my delegation's understanding is that due to these reforms, conference servicing costs for COPUOS and its Subcommittees will be reduced from $2.6 million per biennium to $1.5 million. There has been a 12 per cent reduction in documentation produced by the Secretariat, with cost savings of some $916 per page, taking into account translation into all six official languages. If a session ends early, the saving is approximately $14,000 per day in conference costs. This is a record in which both the Committee and the Office for Outer Space Affairs should take great pride.

At the same time, COPUOS has done and will do more with less. Additional agenda items have strengthened the scientific content of COPUOS and moved it away from politically contentious issues, such as disarmament. A set of long overdue principles on the safe use of nuclear power sources in outer space were adopted; agreement was reached to hold UNISPACE III in 1999; workshops and training seminars on space technology and applications for developing countries were expanded; and last year we adopted a United Nations declaration on international space cooperation.

In conclusion, there is no doubt that the utilization of space technology to solve problems on Earth must be considered in a global perspective, particularly as concerns protection of the environmental quality of the land, oceans and atmosphere. Regional cooperation also continues to hold great promise. Perhaps we should dedicate our efforts under this item to exploring how the Committee could use its resources and expertise to take full advantage of the potential for regional cooperation to meet specific regional needs. Ways in which the Committee could promote greater international cooperation in the use of space systems for early disaster warning, mitigation, and global search and rescue activities could also be considered.

The CHAIRMAN: The next speaker on my list is the distinguished representative of the Czech Republic.

Mr. L. PEREK (Czech Republic): Under the general exchange of views, I said that this Committee is the focal point for peaceful space activities. As such it should receive information from other bodies dealing with the same subject, and to date COPUOS receives no information from the Conference on Disarmament, which is or might be concerned with satellites engaged in peaceful activities.

To cite some examples of this latter point, in July 1989 France made a proposal to establish an international trajectography centre (UNITRACE), possibly as part of the United Nations Secretariat. The centre's main role would of to study trajectories of objects in Earth orbit. Membership would be open to all States possessing or using satellites, and its aim would be to increase confidence of States in the peaceful uses of outer space. The centre would have no regulatory functions but would collect data for updating space object registration, monitor orbits of space objects, and make real-time calculations of trajectories of space objects.

In carrying out these functions, the centre would be able to warn parties of potential intersecting trajectories, or of space objects passing very closely within one another. There would therefore be some overlap with the issue of space debris.

Another proposal concerned the establishment of "keep-out zones". These take the form of spherical zones which move with satellites in outer space itself. A first approach, known as a proximity zone, would aim at delimitation of the location of each object. A second sphere, the so-called wider approach zone, would establish an obligation of notification for passage through it, and an obligation of satellites engaged in peaceful activities would also apply.

A broader proposal is to establish "Rules of the road" – forming a code of conduct for space. These rules would be aimed at improving the safety and predictability of outer space applications, reducing the danger of accidents, and providing information about the origin of space objects. These rules would also have to apply to satellites engaged in peaceful activities. It might be possible to ask the Secretariat to provide us with such information in the future.

The CHAIRMAN: The next speaker on my list is the distinguished representative of China.

Mr. HUANG Huikang (China) *(interpretation from Chinese)*: In recent years, this Committee has done much work and made good progress on maintaining outer space for peaceful purposes. The drafting of the declaration on international cooperation bears witness to this, and we welcome the adoption of the declaration by the General Assembly at its fifty-first session.

As the international situation continues to develop, and the prospect of an arms race in outer space seems ever less likely, my delegation believes that, bearing in mind that the prevention of militarization of outer space continues to be a question of concern to the international community, COPUOS should shift its focus towards how to use space science and technology to better serve the peaceful purposes for the benefit and in the interests of mankind. An important issue in this respect is how to promote international cooperation, in particular how to assist developing countries in establishing policies and measures for the development of their national space capabilities so that they may achieve sustainable development and successfully apply space technology.

The declaration on international space cooperation requests all States, particularly those with space capabilities and with programmes for the exploration and use of outer space, to contribute to the promotion and fostering of international cooperation on an equitable and mutually acceptable basis. Special attention should be paid to the benefit for and interests of developing countries, and countries beginning to initiate space programmes thanks to such international cooperation should work with those countries who have more advanced space capabilities.

UNISPACE 82 recommended the free exchange of scientific and technical information, as well as transfer of technology, in order to promote the application and development of space technology in developing countries. My delegation believes that COPUOS, through the work of its two Subcommittees, can play an active role in this process.

My Government strongly supports all efforts aimed at the peaceful uses of outer space, and is opposed to the use of space technology for non-peaceful purposes. We urge States to intensify their efforts in the area of international cooperation in the peaceful uses of outer space, and for the United Nations to play a stronger role in the elaboration of international law governing space activities. Likewise, organizations within the United Nations should ensure on-going and effective consultations and coordination so that the limited resources available within the United Nations system for space activities can be optimally utilized. My delegation looks forward to working with all members of COPUOS in order to achieve these goals in the future.

The CHAIRMAN: I now give the floor to the distinguished representative of Pakistan.

Mr. M. SHAH (Pakistan): At previous sessions of this Committee, my delegation has pointed out on several occasions that the question of ways and means of maintaining outer space for peaceful purposes falls within the purview of COPUOS. A number of proposals have been submitted to the General Assembly and COPUOS on possible institutional arrangements which could be put in place to monitor and verify an agreement on outer space. This bears witness to the eagerness of mankind to maintain outer space for peaceful purposes only.

My delegation again stresses that this Committee should evolve certain terms of reference to initiate a constructive discussion on the various issues involved. Lack of any major progress on this item for several years, despite repeated requests from the General Assembly through its resolutions, does not give a good impression of the work in this Committee. We hope we will now be able to achieve some constructive and productive work to address this important subject.

The CHAIRMAN: Are there any delegations wishing to speak under this agenda item at this point in time? I see none. As we have sufficient time remaining this morning, and in accordance with our flexible work programme, I would therefore like to begin our joint consideration of agenda items 7 and 9.

Report of the Scientific and Technical Subcommittee on the work of its thirty-fourth session

Implementation of the recommendations of UNISPACE 82; Preparations by the Preparatory Committee for the United Nations Third UNISPACE Conference

The CHAIRMAN: Before turning to the first speaker on my list under these items, I would like to request the Expert on Space Applications to brief delegates on the activities of the Programme on Space Applications.

Mr. A. ABIODUN (Expert on Space Applications, Office for Outer Space Affairs): Thank you for giving me this opportunity to address the distinguished delegates of this Committee concerning the activities of the United Nations Programme on Space Applications under the joint consideration of agenda items 7 and 9.

Before doing so, I would like to join other delegates who have already spoken to note with pleasure that the leadership baton of COPUOS has now been passed to three eminent and distinguished individuals who are very knowledgeable in the field of space: Professor Rao, Ambassador González and Professor Kabbaj. The progress of this Committee will continue under your leadership, and my colleagues join with me in congratulating you all. Your support for the Programme on Space Applications will enjoy a new momentum thanks to your new roles as leaders of this Committee.

I also wish to personally express my deep gratitude to Ambassador Hohenfellner for the outstanding leadership he has provided to this Committee for the last six years, and for the smooth transition he engineered for the new Bureau. My colleagues join with me in paying him a well-deserved tribute, and we reiterate our sincere appreciation of his staunch support,

as well as that of Austria, for the Programme on Space Applications.

I would now like to focus on the Programme itself. Within the framework of its mandate, with which you are all familiar, the United Nations Programme on Space Applications continues to be an effective instrument in many areas. It serves to promote and enhance the understanding of space science and technology, through knowledge and skill development, particularly in the developing countries. It also promotes cooperation among Member States and supports their contributions to continuing developments in space technologies, and assists these same Member States in utilizing this technology to contribute to the solution of social, economic and environmental problems at the national, regional and global levels.

Bearing the above in mind, understanding our planet is one of our main concerns and one for which space technology provides a unique and pivotal tool. How the citizens of the world, particularly those from the developing countries, can attain the necessary knowledge and skills in this field is one of the major preoccupations of the Programme on Space Applications.

The programme accordingly organizes three sets of activities to develop and enhance indigenous capability at the local level. These include: (i) administration of long-term fellowships; (ii) organization of training courses, workshops and conferences; and (iii) establishment of centres for space science and technology education. The skills and knowledge gained through these processes should facilitate the utilization of this technology in many aspects of daily life, such as food security, environmental management, land use, urban planning, forest mapping, identification of vegetation characteristics, including those associated with drugs, disaster warning and mitigation, transportation and communications – to name but a few.

Specifically, the long-term fellowships currently being administered by the Programme are offered by the European Space Agency. There are five of these awards, for studies in communication systems, space antenna propagation, remote sensing information and remote sensing instrumentation. The status of these studies is shown in Annex II of my current report (document A/AC.105/660).

I am also pleased to report that the fellowships initiated by the Programme in Brazil in 1985, at the Instituto Nacional de Pesquisas Espacias (INPE) have fully matured; today these fellowships are co-sponsored financially by the United Nations University, and their operation is now managed by these two institutions. The ten annual fellowships from the Government of Brazil are for studies in remote sensing, with emphasis on research and applications for participants, particularly those from the Latin American subregion. A number of graduates from this fellowship programme are present today.

The Programme continues to address the issue of human resources development at the local level through training courses, workshops, conferences and symposia organized in 1996 as well as earlier this year. Specifically, the Programme focused on the following activities: practical use of satellite radar imagery; development of knowledge and skills of educators in remote sensing; research and education in basic space science; use of space technology to combat natural disasters; development and design of payloads for experimental and small satellites; and spin-off benefits of space exploration and space technology for sustainable development.

At the apex of the Programme's efforts to develop and enhance indigenous capability at the local level is the establishment of regional centres for space science and technology education affiliated to the United Nations. Today, the Centre in the Asia-Pacific region (located in India) is conducting its second nine-month course, with emphasis on communications technology. The third course at this Centre starts on 1 October this year, focusing on remote sensing and geographical information systems.

On 11 March 1997, Brazil and Mexico signed the Agreement establishing the Latin American and Caribbean centre, which will be inaugurated in the latter part of this year. In Africa, Morocco and Nigeria have circulated draft agreements to govern the operation of the respective francophone and anglophone centres in the region, and these too should be inaugurated later this year. Negotiations are under way with and among interested parties concerning the establishment of the Middle East centre.

A technical study mission is planned for the second half of 1997 on the establishment of a network of space science and technology education and research institutions for Central and South-East Europe. This mission will focus on the technical requirements, design, operating mechanism and funding of this network.

In order to point these centres in the right direction, we have prepared and published a set of

curricula, contained in document A/AC.105/649. This document underwent a detailed and elaborate review before its publication, and originally evolved from an expert meeting hosted two years ago by the Government of Spain. We are both delighted and encouraged that the initiative of the United Nations to establish these centres has resulted in the local development and introduction of space science and technology education programmes in many universities around the world. I recently gave a briefing to the International Geosphere-Biosphere Programme (IGBP) on the activities and curricula of these centres; the IGBP is studying the possibility of establishing a relationship between its regional training institutions, whose main activity is global change research, and these United Nations affiliated regional centres for space science and technology education.

The Programme is equally concerned with communication for development. To be connected at the local, regional and global level is an indispensable requirement for development activities in any country. Adequate information is a major prerequisite for acquisition of knowledge in any field of human endeavour. Thus today the Programme provides specific technical advisory services on this vitally important aspect of nation-building, amongst which are the following.

Firstly, the Asia-Pacific Satellite Communications Council (APSCC) which was established and inaugurated in Seoul, Korea in October 1994, with the support of the Programme on Space Applications, continued to make progress in the region. Its 1996 conference placed special emphasis on the contribution of satellite/hale technology to the global information infrastructure. The growing recognition of APSCC since its inception has resulted in its wide international membership, which now numbers 60.

Secondly, at the request of the African countries, a satellite-based information project initiated under the auspices of the Programme is being developed to improve the collection, transmission, distribution and exchange of information specifically in such areas as health care, agricultural research and development, management of natural resources and the environment, and education and science technology within and among African countries, as well as with the international community. A brief summary of the COPINE system is contained in Annex III (pages 15 to 18) of my report.

The COPINE final project document was developed at two working meetings organized in Pretoria, South Africa (25-27 September 1996) and Windhoek, Namibia (19-23 May 1997). This document will be reviewed by the COPINE Provisional Governing Board when it meets next month in Helsinki. At this meeting, it is anticipated that the Governing Board will endorse the final document, and plan the next stage in the implementation of this project, including raising the necessary funding for it. The COPINE project could be replicated in other regions of the world and could provide a significant support mechanism for the data management unit in each of the regional centres for space science and technology education.

Saving lives and property is another major concern of the Programme. In response to the General Assembly's call for the provision of early warning systems of impending natural and similar disasters. As part of its contribution to the IDNDR activities, the Programme has invited interested United Nations agencies to contribute to the development of a project proposal to implement a satellite-based communications network for rural, remote and outer communities of Small Island Developing States (SIDS). This network could thus provide them with a warning system for sudden natural disasters.

A presentation of a modified proposal, oriented towards implementation in the ESCAP region, was made at the ACC meeting held in Vienna in May 1997. Both Inmarsat and WorldSpace are currently evaluating this proposal.

The Programme is focusing attention on the establishment of a technological base in the developing countries. In addition to the Programme's effort to assist Member States to develop appropriate human resources at the local level, and to establish programmes to bridge the communication gap between them, the Programme is targeting the development of technological infrastructure at the local level. We are also concentrating on bringing space technology benefits to Earth in the twenty-first century, through industrial and commercial activities which affect daily life.

The developing countries are seeking opportunities to participate in the various technologies being developed for space exploration and utilization. Such opportunities will enable those participating private industries in both the industrialized and the developing countries to collaborate in areas of mutual interest. Accordingly, the programme is providing opportunities for interaction among industrialists interested in spin-off benefits of space exploration, as well as in the development, design and utilization of small satellites to meet their needs. The latter is particularly relevant to the

exchange of information on remote sensing, health care and education, and early warning disaster mechanisms.

As far as space information is concerned, the eighth document in the series of papers on the Programme's activities is entitled *Seminars of the United Nations Programme on Space Applications* (document A/AC.106/650). The third edition of the directory *Education, Training, Research and Fellowship Opportunities in Space Science and Technology* has also been issued (document A/AC.105/671), and can be found on the Office's World Wide Web.

To ensure that both Member States and the general public can be kept up to date on the latest development in the Programme, the home page for the Programme has been set up on Internet, under the home page of the Office for Outer Space Affairs. The address for the home page, which is accessible on the World Wide Web, is http:\www.un.or.at/OOSA_kiosk/ and contains information on activities which have been implemented, as well as reports and press releases issued in the context of the Programme. Schedules, objectives and the programme of planned activities and projects can also be found on the home page.

I would like to take this opportunity to mention some of the highlights of the Programme. As you know, heavy cloud cover is one of the major problems encountered in surveying Earth from space, particularly in the developing countries. This problem is being addressed with the aid of microwave remote sensing using radar systems that can penetrate clouds and rain, and able to function day or night. Last year a workshop was organized in Manila on this very subject, and we intend to give it greater prominence during the preparatory meetings for UNISPACE III.

The Programme is fully committed to offering assistance to developing countries in helping to combat natural disasters. In this connection we are pleased to note that a major outcome of the Workshop on Space Technology for Prevention and Mitigation of the Effects of Disasters (Santiago, July 1996) was the signing, by the representative of Spain and 12 Latin American countries, of the Inter-American Declaration on Joint Activities for Integrated Development of Civil Protection and Defence, with emphasis on the use of space technology to combat natural disasters.

Through the efforts of the Programme, three Member States have now established space observatories which are being used for space education. Our next activity in the area of basic space science is scheduled to be held in Honduras later this month, and will address elements of education and training in basic space sciences. The outcome of this particu- lar workshop should result in a space education programme for youth, especially in the developing countries.

The Second Regional Conference on Space Technology for Sustainable Development in Africa, held in Pretoria last November, concluded with the *Pretoria Memorandum on Space Technology for Africa*, which included am action plan for translating the elements of the Memorandum into practical programmes (see document A/AC.105/658). The latter will be implemented in 1998 within the framework of the UNISPACE III Preparatory Meeting to be held in Africa. In order to enhance the participation of African Member States in these activities, we have requested each Member State in the region to establish a national focal point for space science and technology for the purposes of liaison with the Programme.

A summary of the activities just described, as well as those planned for the remainder of 1997 and 1998, can be found in my current report. Details of these activities are contained in documents A/AC.105/640, A/AC.105/642-646, A/AC.105/655-658. The greater part of the activities proposed for 1998 will address specific themes of UNISPACE III.

As regards UNISPACE III, the Scientific and Technical Subcommittee, acting as the Advisory Committee for the Preparatory Committee for UNISPACE III, recommended at its last session that the aforementioned preparatory meetings for UNISPACE III should be organized within the scope of the United Nations Programme on Space Applications. The Advisory Committee also indicated that the organization of these preparatory meetings should be carried out in consultation with Member States of each region.

I am pleased to report that these consultations have been carried out, and have extended invitations to Member States to host the regional preparatory meetings. We are delighted to hear that Chile would be happy to host the meeting in Latin America next year. For our part, in extending this invitation, we also gave all Member States concerned an outline of the expected contributions of host countries in support of these preparatory meetings. We are now waiting for responses from other interested Member States to our invitations.

We are in the process of developing a draft process for these preparatory meetings. Such a programme will contain elements of the annotated

provisional agenda for UNISPACE III (see document A/AC.105/673). In addition, the specific characteristics and needs of each geographical region will be reflected in the programme of these meetings.

In support of its 1996 activities, the Programme went to considerable lengths to seek support; in so doing, it received a variety of voluntary contributions both in cash and in kind including the sponsorship of technical and scientific presentations by several experts from the following Member States, governmental and non-governmental entities. These Member States include Austria, Brazil, Chile, China, Germany, Italy, Japan, Pakistan, the Philippines, South Africa, Spain, Sri Lanka, Sweden, United States. The governmental and non-governmental organizations include the United Nations Department for Development Support of Management Services, the Austrian Space Agency, CNES (France), the Committee on Space Research (COSPAR), DARA, ITU, GlobalStar, Inter-American Development Bank, International Centre for Theoretical Physics (Trieste, Italy), International Telecommunications Satellite Organization (Intelsat), Institute of Space and Astronautical Science of Japan, Restec (Japan), and the Planetary Society.

In 1996 the Programme received cash contributions from the Governments of Austria, Pakistan and Spain, as well as from the European Space Agency, the European Commission, EOSAT, IAF, Inmarsat, NASA, NASDA and Nuova Telespazio (Italy). Details of all the above contributions are contained in paragraph 35 (a) to (f) of my current report.

I wish to express the gratitude of the United Nations to all of you, to your respective countries, to the intergovernmental, regional, international and non-governmental organizations, United Nations agencies and regional economic commissions, and to the many enthusiastic and dedicated experts and individuals all over the world for assisting and cooperating with the Programme on Space Applications in achieving its objectives.

As you know, the European Space Agency has been a strong ally of the United Nations in its support of the Programme on Space Applications. Over the years, ESA has been our friend and a true partner as we strive to make an impact on the lives of many around the world, particularly in the developing countries. The United Nations is very grateful to ESA for its continued support, which is channelled through its International Relations Branch. On this occasion, I am particularly delighted to welcome Mr. Giampalmo, who recently succeeded Dr. Arets as Head of the International Relations Branch of ESA. We look forward to working with you and your colleagues and are certain that under your leadership, the relationship between our two organizations will be further strengthened.

I would also like to thank my colleagues in the Space Applications Section of OOSA for their hard work and dedication in the difference phases of the Programme's activities, especially in the face of declining resources and the need to shoulder extra responsibilities. I also wish to thank all my colleagues in the Committee Services and Research Section, as well as Dr. Jasentuliyana, the Director of the Office, for the assistance and cooperation in the Programme's activities.

The financial difficulties encountered by the Programme are well known to you all. In the current biennium, the Programme's budget was cut by one third: that is, by some $150,000. Despite this, demands are being made of the Programme to address issues that affect human conditions on our planet — food security, adequate health care, education, ensuring functional communications systems and information exchange, protection from natural disasters, and ensuring a healthy environment.

In the face of dwindling resources, how the Programme can effectively fulfil its mandate is a major challenge not only for us, but for all countries of the world. I wish to reiterate that the Programme will continue, as it has in the past, to prepare the developing countries to take advantage of the opportunities that should result from their understanding and active participation in the various phases of space technology. If the Programme is to fulfil the mandate you have given it, your genuine support and that of the countries you all represent here are crucial to its future and its continuing effectiveness.

As we approach UNISPACE III, we are all examining what our approach to the future should be. We plan to use the preparatory meetings to stimulate debate on this subject in order that they can be properly defined in time for the holding of the Conference. In the meantime, I am at the disposal of all delegations as concerns their inputs on what such a vision of the Programme for the future should be.

The CHAIRMAN: Thank you very much for your informative and detailed statement on the work carried out by the Programme on Space Applications. We will now continue our consideration of these agenda

items. The first speaker on my list is the distinguished representative of Mexico.

Mr. V. ARRIAGA (Mexico) *(interpretation from Spanish)*: My delegation would like to thank the Expert on Space Applications for his excellent and comprehensive statement. We welcome the progress made concerning the establishment of the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean. On 11 March the Governments of Mexico and Brazil did enter into an agreement to that effect. Subsequently, the Senate of Mexico ratified that agreement and are eagerly awaiting the start of these activities.

My delegation in principle favours the United Kingdom proposal, circulated at the last meeting of the Scientific and Technical Subcommittee, on the issue of nuclear power sources in outer space. The programme of work produced by the working group could be examined in order to bring about effective results in generating contributions to step up the use of nuclear power sources in outer space.

In conclusion, my delegation has noted the announcement of the Chilean delegation to host the regional preparatory conference for UNISPACE III, and would like to thank the Government of Chile for their generous offer.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Brazil.

Ms. M. DA SILVA (Brazil): As you know, Brazil and Mexico have already signed the Agreement to establish the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean. The Agreement was signed on 19 April 1997 by the Hon. José Israel Vargas, Minister of Science and Technology of Brazil, and the Hon. José Reyna, the Mexican Ambassador to Brasilia. The Government of Mexico ratified the Agreement last April, and Brazil intends to follow suit in the near future.

The formal setting up of the Centre is in progress, and final administrative arrangements should begin in the second half of this year. As part of the activities which constitute Brazil's contribution to the Brazilian campus of the Centre, the National Institute for Space Research is conducting the eleventh "Remote sensing course for foreign students", for a total of 12 students from Bolivia, Brazil, Colombia, Cuba, Ecuador and Mexico.

The European Space Agency has already informed us that it will be cooperating with the Centre in the near future, in the form of a training course in remote sensing by radar. My delegation is pleased to participate in the Programme on Space Applications, and will do its utmost to ensure that fruitful cooperation is achieved.

The CHAIRMAN: I now give the floor to the distinguished representative of Italy.

Ms. G. VENTURINI (Italy): My delegation appreciates the valuable work carried out and progress achieved on items on its agenda by the Scientific and Technical Subcommittee at its thirty-fourth session.

The issue of space debris merits particular attention and, in accordance with the multi-year plan for consideration of specific matters concerning space debris, the Subcommittee was able to consider modelling of the space debris environment and risk assessment. With some 100,000 pieces of debris in orbit around the Earth, the preservation of the outer space environment is a major concern to the space community. Measure to limit the generation of space debris are seen as a complementary means to ensure the safe utilization of space objects. Agreement between States and international organizations involved in space activities in this area is essential if positive results are to be achieved. My delegation fully supports the work of the Subcommittee towards finalizing its report on space debris.

The wheels are in motion for the convening of UNISPACE III in Vienna in 1999, as a Special Session of the Committee open to all United Nations Members. This Conference will enhance international cooperation in space research and applications, and will provide a global forum for discussion of the problems encountered in space activities.

My delegation has contributed to the activities of the Advisory Committee for UNISPACE III in a spirit of cooperation. However, we wish to emphasize that the cost of holding the Conference should be kept within the existing resources for the Committee and its Secretariat. As recommended by COPUOS at its thirty-ninth session, this could be achieved by reducing duration of sessions of the Committee and its Subcommittees in 1999. My delegation appreciated the statement by the Director of the Office for Outer Space Affairs which explained the efforts being made to this end. We would like to express our appreciation to the Office and the Secretariat for their efficiency and cooperation which, as ever, provides a

solid basis for the work of the Committee and its subsidiary bodies.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Germany.

Mr. G. FULDA (Germany): I would like to express my delegation's deep satisfaction with the progress made in the course of the multi-year workplan on space debris. My delegation participated in this year's discussion on modelling through a presentation on national research in the respective area. We are confident that the Scientific and Technical Subcommittee will prepare and substantive report on space debris, which can then take the form of a status report agreed among States to provide a basis for further deliberations and actions.

Turning to the subject in the forefront of our discussions, UNISPACE III, this Committee will act as the Preparatory Committee for the Conference. We have before us an indicative agenda for the Conference, as contained in the report of the Scientific and Technical Subcommittee. My delegation co-sponsored the working paper (document A/AC.105/C.1/L.209) containing the views of 14 ESA Member States on the venue and agenda for UNISPACE III. In a spirit of cooperation and compromise, my delegation took part in drafting the proposal now contained in the Subcommittee's report, reflecting a synthesis of views expressed in other working papers on the subject. We can accordingly support this proposal. The provisional agenda and preparatory work for the Conference will merit further discussion during the current session of the Committee.

The CHAIRMAN: I now give the floor to the distinguished representative of Pakistan.

Mr. M. SHAH (Pakistan): My delegation would like to make some brief comments on the report of the Scientific and Technical Subcommittee.

Nuclear power sources in outer space is a subject currently being discussed in the Subcommittee through the appropriate working group. My delegation has recommended for some time that a revision should be made of the Principles on the Use of Nuclear Power Sources in Outer Space, adopted by the General Assembly in 1992. In view of rapidly changing technology, safety and risk reduction aspects should be emphasized when revising the Principles. We have also tried to promote the adoption of a constructive debate on the subject, in order to draw up a list of essential points for discussion. A multi-year workplan could possibly be considered in this connection.

My delegation noted with interest the statement of the representative of the International Atomic Energy Agency (IAEA) at the Subcommittee's thirty-fourth session, which recommended an urgent review of the Principles based upon the recommendations of the ICRP, which have been revised since 1992. The IAEA representative recommended the revision in particular of safety principles contained in the United Nations treaties and principles on outer space relating to notification and re-entry with nuclear power sources on board. The principles relating to subsequent assistance to States should also be discussed, as they conflict with the requirements of two IAEA Conventions, namely the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

The IAEA has offered to cooperate with the Office for Outer Space Affairs in formulating draft versions of United Nations treaties and principles on outer space in order to ensure their harmonization with the new basic safety standards in the IAEA Conventions referred to above. My delegation again stresses the need for continuing dialogue on this vital subject and would request all States to continue related studies in order to facilitate discussion of this issue in the Scientific and Technical Subcommittee. We are pleased to note that the Subcommittee has agreed to begin consideration of this subject as from its next session (February 1998).

Regarding space debris, my delegation expresses its appreciation for and satisfaction with the comprehensive technical report prepared by the Scientific and Technical Subcommittee, "Modelling of the space debris environment and risk assessment". This addresses the short- and long-term models, as well as the various aspects of orbital debris risk assessment, in accordance with the multi-year workplan. There is no denying the fact that the pace of progress, as well as the quality of work carried out by the Subcommittee in this specific area, are most commendable. The final report to be prepared in 1999 will go a long way towards understanding the various elements involved in the problem of space debris, risk assessment, and other aspects related to safety of future missions to outer space.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Canada.

Mr. S. LESSARD (Canada) (*interpretation from French*): My delegation does not wish to repeat the position which it expressed at this year's meeting of the Scientific and Technical Subcommittee. We would like

to stress that Canada welcomes the progress achieved on the issue of space debris in accordance with the multi-year workplan. The quality of the research results presented, as well as the promising dialogue which has evolved at both the national and international level, are testimonies of the real progress achieved in maintaining the outer space environment both today and for the future. Canada will continue its work in this important area in collaboration with the international community.

The CHAIRMAN: I now give the floor to the distinguished representative of Austria.

Mr. H. BÖCK (Austria): As my delegation has mentioned on previous occasions, we believe that the United Nations Programme on Space Applications can play a major role in the promotion of the use of space technology for environmental and developmental purposes. It is therefore all the more important to provide this Programme with additional financial resources. Austria has been one of the few countries to regularly contribute to the Programme, and we intend to continue our support. My delegation is pleased to announce Austria's increased contribution for 1997, totalling $25,000. We would like to call on other Member States to follow suit and thus enable the Programme on Space Applications to cope with the numerous tasks ahead.

In 1996 and 1997, the Austrian Ministry for Foreign Affairs and the Office for Outer Space Affairs jointly organized a symposium on "Space technology applications for the benefit of developing countries" in Graz, and an international seminar on "Space futures and human security" in Alpbach, Austria.

The main objective of the symposium, held in Graz from 9 to 12 September 1996, was to promote the potential of space technology for improving social, economic and environmental conditions in developing countries. The overall themes of the symposium were based on Agenda 21, which recognizes that reaching the goal of sustainable development involves making use of space technology. The topics discussed included, inter alia, "Space applications for national and regional development", "Space systems for ocean resource management", "Multinational space programmes", and "Possible future space applications: drug control programmes, land-mine detection and hazardous waste management".

A report containing the observations and conclusions of the symposium is available in document A/AC.105/646. One of the symposium's recommendations was to encourage the organization of a follow-up United Nations/ESA symposium on the theme "Space industry cooperation with the developing world", which will take place in Graz from 8 to 11 September 1997. We are greatly looking forward to this seminar, which will provide an opportunity for representatives from industry and the private sector to interact with international space scientists, space technology experts and policy makers from both developing and industrialized countries.

The international seminar on "Space futures and human security" was held from 27 to 30 January 1997 in Alpbach, and brought together experts and space policy makers from all corners of the world to discuss the role of space technology for the future of human security. I am happy to tell you that our Chairman, Professor Rao, was present at the seminar. The session addressed questions on the issue of space as concerns environmental security, economic security, social security and cultural security. It concluded with an item entitled "Looking ahead", which was intended as a challenge to participants to present their views on the main topics to be included on the agenda of UNISPACE III.

Many of these topics had already been discussed in various United Nations bodies, including COPUOS itself. As discussions are sometimes constrained by formal viewpoints, the format of the seminar was specifically chosen to promote a free and frank exchange of views and perspectives. An information note containing the summaries of the Rapporteur General and the Chairpersons of the seminar can be found in document A/AC.105/C.1/1997/CRP.3. The complete proceedings of the seminar will be published in book form in due course, and a follow-up seminar on "Space futures and human security" will be held in early 1998.

The CHAIRMAN: Thank you for your statement. I would urge all delegates to study the two documents on the proceedings of these seminars, in particular the seminar in Alpbach, whose deliberations took place in an informal atmosphere and which therefore represented a very frank and open discussion. The next speaker on my list is the distinguished representative of the Czech Republic.

Mr. L. PEREK (Czech Republic): As my delegation mentioned in the general debate, we appreciate the technical presentations on space debris made during the last session of the Scientific and Technical Subcommittee. Several models of the population of space debris and its development were presented, and these models originated quite independently from different institutes and countries. General agreement is that we

understand the phenomenon of space debris correctly, at least as regards its general properties. The long-term predictions contained in the technical report cover the next 100 years, and show a steady growth in the debris population. A much longer period of time would be needed to show the natural decline of this population, and this is something which could be usefully included in the technical report, even if the accuracy and reliability of such long-term predictions is less than those in the shorter term.

My delegation welcomes the document on steps taken by space agencies for reducing the growth or damage potential of space debris (document A/AC.105/663). Its importance lies in the fact that mitigation measures and policies used in launch vehicles, as well as in payload, and the prevention of accidental debris creation, are voluntary actions taken by space agencies. As such they can be made operative by the agencies themselves with no undue delay. Various measures taken by different space agencies are very similar, and a system is likely to evolve for mitigation of the hazards of space debris which will be common to all launching agencies. This development is in the interests of the launching agencies themselves as it will raise the life expectancy of active satellites, and in the interests of all users of space applications, as it will increase the probability of continuous service. My delegation hopes that those space agencies who take part in the Inter-Agency Space Debris Coordination Committee (IADC) will continue these activities and develop such ideas further.

The CHAIRMAN: The next speaker on my list is the distinguished representative of the United States.

Ms. S. KAMM (United States of America): My delegation would like to address agenda item 7, the report of the Scientific and Technical Subcommittee. We believe that this year's session of the Subcommittee was very constructive, and its various successes bode well for the future. We greatly appreciate the work of the Chairman, Professor Dietrich Rex, in leading the Subcommittee through an agenda that contains many important and complex issues. My delegation believes that all members of this Committee will agree that continuing budget constraints, increasing global environmental and economic concerns and a growing awareness of the benefits of space activities all point to the need to maintain a productive pace of cooperation in the Subcommittee.

Bearing this in mind, we would like to briefly comment on the progress of the multi-year workplan on space debris, the status of preparations for UNISPACE III, and to give our views on the reconvening of the working group on the use of nuclear power sources in outer space.

This year the Subcommittee completed another productive segment of its multi-year workplan on space debris, addressing the important topics of modelling the debris environment and debris risk assessment. Presentations by several Subcommittee members, the IADC and the ESA demonstrated that a number of space-faring nations are taking important steps to better understand the issue of debris. The United States looks forward to discussion of the third and final topic in the workplan — space debris mitigation measures — which will be taken up at the Subcommittee's 1998 session.

Members of COPUOS have had the opportunity to review the two technical reports of the debris workplan contained in the Subcommittee's reports. These reports not only document the state of technical knowledge on debris, but also clearly indicate that the workplan is achieving its goal of making a significant contribution to our knowledge on space debris. My delegation continues to believe that an adequate technical base of knowledge on this important issue must be established in the Subcommittee before we consider if and when any new legal norms should be discussed in the Legal Subcommittee.

My delegation welcomes the Subcommittee's successful completion of the work entrusted to it by the General Assembly, to provide recommendations on the form, venue, date, participants, agenda and financial aspects of UNISPACE III. The Subcommittee's ability to accomplish so complex and vital a task within the given timeframe was exemplary. The United States particularly welcomed the final agreement on the annotated agenda for the Conference. The development of this agenda involved a high degree of compromise by all members in pursuit of the common goal of a high-quality and technically-oriented special session of the Committee open to all Member States of the United Nations. My delegation is convinced that the major theme of the agenda — Earth observation — will demonstrate the universal benefits of space exploration, research and applications in the best possible manner.

Much still remains to be done to ensure the success of UNISPACE III, and my delegation looks forward to fully participating in this process. As an important first step, the United States has suggested that the Secretariat issue invitations to appropriate commercial companies as well as international, regional, governmental and non-governmental organizations, to

inform them of and request their participation in the Conference.

During the last session of the Subcommittee, my delegation supported the reconvening of its Working Group on the Use of Nuclear Power Sources in Outer Space, and agreed that members be invited to include technical experts in their delegations next year to ensure an informed discussion on all relevant issues. We also believe that revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space is not yet warranted. Until a specific scientific and technical consensus has been reached on international standards relevant to the Principles, it would be inappropriate for the Legal Subcommittee to consider such revision.

The United States space programme recognizes that, as stated in the Principles, for some missions in outer space, it is sometimes both appropriate and essential to use nuclear power sources. The United States implements a rigorous safety analysis and review process prior to any launching of nuclear power sources into outer space, and will continue to apply this approach. We look forward to participating in the Subcommittee's Working Group in order to identify and study further the latest international technical standards relevant to the Principles.

In conclusion, my delegation expresses its special appreciation for the efforts and achievements of the Expert on Space Applications, Dr. Abiodun, and his staff. The impressive record of training courses, seminars and workshop activities, as well as the continuing development of regional centres for space science and technology, is a positive reflection of the time, attention and cooperation given to expanding the opportunities for all countries to benefit from the use of outer space through the Programme on Space Applications.

The CHAIRMAN: Are there any other delegations wishing to speak under this agenda item? I see none. We will therefore shortly adjourn this meeting, but before doing so, I would like to recall the schedule of work for this afternoon, which I outlined in detail at the opening of this morning's meeting. I would urge all delegates wishing to speak to inscribe their names on the list of speakers, so that we are able to conclude our discussions on these items.

If time permits, we will also open discussion on agenda item 8.

The sitting adjourned at 11.45 a.m.